

April 7, 1986

✓ 8 #14

\$1.75 (\$2.25 Canada)

The Newspaper for the Microcomputing Community

# InfoWorld

Volume 8, Issue 14

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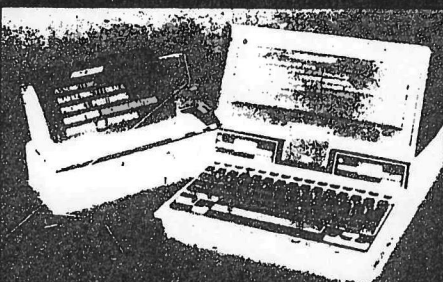
## IBM Attacks: New Products, Pricing Laptop, New AT Lead Aggressive Market Assault

By Steven Burke  
and Jim Forbes  
InfoWorld Staff

NEW YORK — IBM Corp. last week attacked a fragmented marketplace with a volley of new products and aggressive price cuts in its existing product line. The new offerings are spearheaded by its long-awaited laptop and flanked by enhanced products aimed at recapturing business lost to clone makers.

In addition to the laptop, the company also unveiled a faster 8-MHz PC AT, an expanded PC XT, and a new version of Topview. The price cuts ranged from a \$150 drop on one model of the PC to a \$1,000 slash in the cost of a PC XT with one floppy and a 10-megabyte hard disk drive. (See box on page 8.)

In making the announcements, IBM Entry Systems Division president William Lowe warned that IBM's competitors will have to "move very quickly in order to



The battery-powered IBM PC Convertible weighs under 13 pounds, comes with 256K of memory and dual-sided, 3 1/2-inch disk drives, and supports the PC Convertible Printer.

remain compatible" in the future. He promised frequent product enhancements and announcements that will make life tough on clone makers. "We're focused on key things like breaking that 640K boundary, communications, connectivity, a graphics interface, and a wide range of

software enhancements," Lowe said.

IBM will improve price/performance by integrating new chip technology, according to Lowe, citing as evidence the new laptop, dubbed the PC Convertible. The machine uses five IBM logic chips that he said

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By Jim Forbes  
InfoWorld Staff

Several major software makers grew enthusiastic after IBM's announcement of a laptop computer last week, but corporate buyers were mixed in their reaction to the PC Convertible.

"We've used laptop microcomputers — mostly Hewlett-Packards and Grigs — for several years; the introduction by IBM means we will have another choice in machines," said Bruce Rosenblatt, a manager with Chevron Information Technology Co., in San Ramon, California. Chevron has several hundred laptops in its inventories now, he said. "We are not dissatisfied with the machines we use now, but a laptop from IBM could be an important new choice."

IBM's PC Convertible is a battery-powered laptop that weighs under 13 pounds and costs \$1,995 in its basic version. The machine uses dual-sided, 3 1/2-

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## Scanners Gain Popularity With Desktop Publishers

By Karen Sorensen  
InfoWorld Staff

Advances in technology coupled with an increasing demand for desktop publishing are boosting the popularity of electronic scanners with business users.

Scanners are devices that can transfer a paper image into a computer, whether the image is text, graphics, or both. In the desktop publishing market, where merging text and graphics is of key importance, people are paying closer attention to scanner technology. "We consider them almost as important as word processing programs and many of the output peripherals such as laser printers," said Larry Martinez, desktop publishing product manager for the computing services department of Boeing Commercial Airplane Corp. in Seattle.

Although scanner technology is not new, it has been, up until now, prohibitively expensive. When introduced for office use in the mid-1970s, scanners cost more than

\$10,000, said Ed Wong, a research analyst for Dataquest Inc., in San Jose, California. But prices have now dropped to the \$2,000 to \$6,000 range, Wong said.

Vision Research, also of San Jose, will soon introduce a flatbed scanner capable of the same 300-dot-per-inch (dpi) resolution of many low-priced laser printers. With an interface card and image/text editing software, the device will sell for \$2,495, the company said.

Declining prices may also mean that more software applications providing scanner support will begin to appear, especially for the desktop publishing market. "Scanners and desktop publishing application software have not quite been integrated together to the point they should be for users, but this will be taking place this year," said Richard Amen, president of Dest Corp., a scanner maker based in Milpitas, California.

Some page layout software manufacturers — such as Aldus Corp. of Seattle and

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According to a survey of PC World readers, most business computer users turn to 1-2-3 instead of dedicated graphics programs to make charts.

## Graphics Programs Slow To Woo Business Users

By Mark J. Welch  
InfoWorld Staff

Despite the growing number of graphics packages and the advent of sophisticated graphics hardware, most business users don't bother with graphics, according to analysts and microcomputer managers.

And those who do create graphics often work with the graphics portions of integrated packages, not with separate graphics programs.

"Business graphics haven't really taken off as much as predicted over the past few years," said Joan-Carol Brigham, an industry analyst at International Data Corp., a

market research firm in Framingham, Massachusetts. "Of all the people who use Lotus' 1-2-3, only about 30 to 40 percent use graphics at all." Of those, only about a quarter use add-on graphics packages to enhance 1-2-3's graphics, she said.

Analysts like Brigham say the presentation graphics market is difficult to follow because it is expanding in three directions. Although most users interested in graphics stick to the capabilities provided by programs such as 1-2-3, others are moving toward stand-alone programs such as Chartmaster, Graphwriter, and Microsoft Chart. Others prefer to buy programs that

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## IBM Laptop

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greatly reduce manufacturing costs.

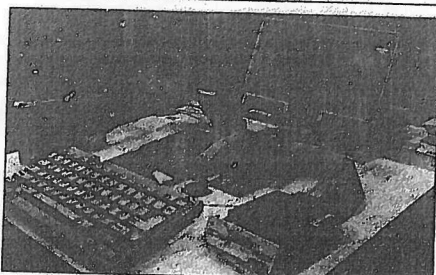
The battery-powered PC Convertible weighs less than 13 pounds; features a pair of dual-sided, 3 1/2-inch disk drives, each with a capacity of 720K; and 256K of random-access memory (RAM). Its memory can be expanded to 512K with the addition of 128K memory boards. A user should be able to operate the Convertible for six to 10 hours before having to recharge the battery pack, IBM said. The basic machine will sell for \$1,995 and be available in May.

The laptop uses an Intel 80C88 microprocessor, which IBM executives claim maintains compatibility with IBM's existing PC line. The machine requires a new version of the PC-DOS operating system, Version 3.2, which IBM announced in early March. The \$95 operating system, developed by Microsoft Corp. of Redmond, Washington, provides support for the 3 1/2-inch disk drives and can run existing PC-compatible applications. IBM plans to package both 3 1/2-inch and 5 1/4-inch versions of programs together, said Edward D. Thomas, an IBM product manager.

The company also announced 3 1/4-inch external disk drive options for the rest of its personal computer line, as well as an internal 3 1/4-inch disk drive option for the PC XT. At the IBM announcement, 16 software makers, including Lotus Development Corp. and Ashton-Tate, displayed versions of their programs based on 3 1/4-inch disks.

"The Convertible is a full-function business computer," said Lowe. "The key is you can use it on your desk or anywhere." The machine's main screen is a detachable, 25-line-by-80-character liquid crystal display (LCD). Users can remove it and attach optional monochrome or color desktop displays developed by IBM for the machine. IBM officials said the LCD screen uses a special bonding process to reduce the glare and improve readability.

Options for the new Convertible computer include the IBM PC Convertible printer, a dot-matrix model that attaches to the back of the Convertible and draws its



Many buyers said that if applications for the 3 1/2-inch drive PC Convertible arrive quickly, the machine could be readily adopted by companies with large field staffs.

## The Basic PC Convertible:

- Weight: Under 13 pounds.
- Processor: Intel 80C88.
- Memory: 256K. Can be expanded to 512K with addition of 128K cards.
- Storage: Two dual-sided, 720K, 3 1/2-inch floppy disk drives.
- Operating System: PC DOS 3.2.
- Screen: Detachable 25-line-by-80-character liquid crystal display. Optional monochrome or color display.
- Keyboard: Built-in, redesigned 78-key PC keyboard with shift and alternate keys on both sides. Separate cursor control keys.
- Power: AC, or batteries that run for six to 10 hours before recharging.
- Options: Battery-powered printer, internal modem, battery charger, power adapter for a car lighter.
- Price: \$1,995.

power from the system's battery pack; an internal modem; a new convertible battery charger; and an automobile power adapter.

IBM is currently shipping the Convertible to several large customers who have been testing the product, according to Lowe. The company has stopped marketing its bulkier Portable PC, he said.

In other announcements, IBM said it will begin selling a faster version of the PC AT. The machine's 80286 microprocessor will run at 8 MHz, instead of the current 6 MHz. The company also said the new machine can be equipped with as much as 10.5 megabytes of memory with new memory expansion options.

The new AT, which is priced at \$5,295, comes with a 1.2-megabyte disk drive and can be equipped with a 30-megabyte hard

disk drive.

The company also announced new PC XT models that can carry up to 640K of RAM on their main circuit boards, thus freeing two expansion slots for other uses. The new XT's come with one or two half-height 5 1/4-inch floppy disk drives and can be equipped with a 20-megabyte hard disk drive. An XT with 256K RAM and a single floppy disk drive costs \$2,145. With two drives, its price is \$2,295. An XT with 512K RAM, one floppy drive, and a 20-megabyte hard disk drive is priced at \$2,895.

The new version of Topview, Topview 1.1, incorporates features such as program swapping, support of batch files, and automatic program starting, according to IBM. Program swapping expands the

## Announced Price Cuts

IBM has cut prices on:

- The IBM PC AT with 512K. Models with a 1.2-megabyte floppy disk drive and a 20-megabyte hard disk drive were cut by \$900, to \$4,895. Models with one 1.2-megabyte floppy disk drive and a 30-megabyte hard disk drive dropped by \$700, to \$5,295.
- The IBM PC XT with 256K. Models with one floppy disk drive and a 10-megabyte hard disk drive were cut by \$1,000, to \$2,895. Models with two floppy disk drives were cut by \$275, to \$2,295. Models with a single floppy disk drive dropped by \$125, to \$2,145.
- The IBM PC with 256K. Models with two floppy disk drives were cut by \$300, to \$1,995. Models with one floppy disk drive dropped by \$150, to \$1,845.
- Hard disk drive options. The 30-megabyte model dropped by \$200, to \$1,795. The 20-megabyte model was cut \$500, to \$1,095. The 10-megabyte model was lowered by \$500, to \$695.

number of applications a user can load into memory. When programs are not in use, Topview moves the program to disk storage, freeing the memory for other use. Topview 1.1 is priced at \$175.

IBM also announced price increases on a series of IBM software products, including the IBM PC Assistant Series and the IBM PC Decision Series. Lowe said IBM wanted to ensure that it received a return on its large software development investment.

Other IBM announcements included two new series of accounting software, a new standard keyboard for IBM PCs and workstations, new versions of the 3270 PC and 3270 PC AT, and an expanded memory adapter board for the 3270 PC AT that provides up to 2 megabytes of user memory.

## Reaction

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inch floppy disk drives and features a detachable, 80-column-by-25-line liquid crystal display screen.

Many corporate buyers said that if applications in the smaller disk format arrive quickly, the new machine could be readily adopted by companies with large field staffs. Many microcomputer managers, however, said they have already bought most of the machines they will acquire this year and expressed concern about the size of the machine, the use of a new disk drive format, and the PC Convertible's weight.

"I'm not sure IBM's announcement means a whole lot," said O. Raymond Long, a senior systems specialist with E. I. DuPont de Nemours & Co. Inc. in Wilmington, Delaware. "It's too heavy, and I don't think the detachable screen is supported adequately."

Compared to the HP Portable and Portable Plus, used by DuPont's field marketing personnel, a fully equipped PC Convertible is too heavy, Long said. "If you are lugging a briefcase, suit bag, and other luggage around an airport, the extra weight can be a burden."

Corporate buyers expressed concern about the legitimacy of the PC Convertible's screen as well. "I've seen the PC Convertible's display, and I think it could be

improved," said John Pa.lett, manager of computer systems acquisitions for Westinghouse Electric Corp. in Pittsburgh. But he said Westinghouse's laptop purchases could increase in light of the announcement.

"Laptops are used by our field personnel, and they are becoming increasingly important," Pickett said. "The screen display technology is important, and it is likely to result in the buyers becoming segregated into two groups, those who will wait for better displays, and those who won't wait and will buy immediately."

Most corporations such as Westinghouse make their acquisition decisions based on the individual merits of laptop machines, and not based on the manufacturer. "But the initials IBM on a laptop portable could be very important to some of our users," said Pickett.

But buyers also said they are concerned that the PC Convertible, with its 3 1/2-inch disk drive, run the most popular programs for the IBM PC. The four major makers of IBM PC software responded within minutes of the IBM announcement. Lotus Development Corp., Microsoft Corp., Ashton-Tate, and Software Publishing Corp. all announced their intention to supply programs in the 3 1/2-inch format.

Lotus, in Cambridge, Massachusetts, said it would provide 1-2-3 on 3 1/2-inch disks early this summer and that Symphony would be available in the new format this fall. Lotus said it would announce a special purchase program for registered users of

Symphony and 1-2-3 who wanted versions of the program in the new format. Lotus said it would make further announcements about this program later this year.

Microsoft, the Redmond, Washington, designer of the PC-DOS 3.2 operating system used by the PC Convertible, said it would offer registered owners of its 5 1/4-inch-based programs a chance to upgrade to the new format next month. The company said it would make additional announcements listing a telephone number users could call to get their free 3 1/2-inch-based programs. Microsoft expects to start offering its application software on 3 1/2-inch disks on May 15.

The only program Microsoft said it would not upgrade free is Flight Simulator.

The release of a new microcomputer using 3 1/2-inch drives, as well as the incorporation of this technology by IBM in its PC products, is a clear signal of the technology IBM intends to use in future microcomputers, according to Pete Higgins, Microsoft's group product manager for PC planning products.

Higgins said that the release by IBM of 3 1/2-inch drives for its PC products would help users in the transition from one technology to the next. Most corporations will continue to need machines that can go with either disk drive technology, though, he said.

Ashton-Tate of Torrance, California, said it would provide Dbase III Plus, Framework II, and the Multimate Professional Word Processor, Series 3.3 in the

down-sized format later this quarter. Ashton-Tate said Multimate 3.3 would be the first in a series of products it plans for the Convertible.

Software Publishing Corp. of Mountain View, California, said it can readily provide software for the Convertible because it already offers applications on 3 1/2-inch disks for both Apple machines and the new MS-DOS microcomputers that already use the format. "Some of our applications software, our programs for Apple microcomputers, are already packaged with 5 1/4-inch as well as 3 1/2-inch disks," said Signe Ostby, director of marketing for the company. "Providing packages with both diskette formats in a single box is something that helps the computer retailer as well as the user."

Living Videotext Inc., also of Mountain View, said it is ready to ship versions of its MS-DOS programs, Thinktank and Ready, for the IBM PC Convertible. But the company said it won't offer both 5 1/4-inch and 3 1/2-inch disks in the same package. "It's too expensive," said Dave Winer, the company's president.

Borland International of Scotts Valley, California, said it would make all its IBM PC-compatible products available in versions for the Convertible. The company said it planned to make 3 1/2-inch disk versions of Sidekick and Reflex: The Analyst available by May 1. Prices for the new versions of the products will remain the same as the 5 1/4-inch-based products, according to a Borland spokeswoman.

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